



Laboratory Testing FAQs

What is Reverse-Transcriptase Polymerase Chain Reaction (RT-PCR)?

PCR is a very common scientific technique that has been widely used in both research and medicine to detect genetic information. RT-PCR is a special version used when RNA is being detected. It is being used to detect SARS-CoV-2, the virus causing COVID-19. RT-PCR tests for the presence of the virus RNA. This test is quick, sensitive and reliable.

When should the RT-PCR test be used?

The RT-PCR test is diagnostic and should be used to determine an active infection of COVID-19. Patients that present with symptoms of COVID-19 should have an RT-PCR test performed. This test can only determine if the patient is currently infected at the time of specimen collection, not if they previously had the disease.

RT-PCR performed on a nasopharyngeal swab is the current gold standard for diagnosis of an active COVID infection. Though it is possible that either a throat or nasal swab will be taken for RT-PCR, as these types of specimens have been shown to be of nearly equal quality to nasopharyngeal swabs.

What is needed for specimen collection?

CDC recommends collecting and testing an upper respiratory specimen. The following are acceptable specimens:

- A nasopharyngeal (NP) specimen collected by a healthcare professional; or
- An oropharyngeal (OP) specimen collected by a healthcare professional; or
- A nasal mid-turbinate swab collected by a healthcare professional or by a supervised onsite self-collection (using a flocked tapered swab); or
- An anterior nares (nasal swab) specimen collected by a healthcare professional or by onsite or home self-collection (using a flocked or spun polyester swab); or
- Nasopharyngeal wash/aspirate or nasal wash/aspirate (NW) specimen collected by a healthcare professional.

How should the specimen be handled and transported?

- Specimen is stable for 72 hours at 2-8 degrees. Long storage times are allowable but will require that the specimen be frozen.
- Specimen must be kept at 2-8°C (refrigerated/cool) or frozen

What is antibody testing?

An antibody test looks for the presence of antibodies, which are specific proteins made in response to infections. Antibodies can be found in the blood of people who are tested after infection and show that people have had an immune response to the infection. Antibody test results are especially valuable for detecting previous infections with few or no symptoms.

However, we do not know if the antibodies that result from SARS-CoV-2 infection will provide someone with immunity from a future infection. If antibodies do provide immunity, we don't know what titer or amount of antibodies would be protective or the duration that protection would last.

When should antibody testing be used?

Antibody testing should **not** be used as the sole basis to diagnose COVID-19. It typically takes 1 to 3 weeks after someone becomes infected with SARS-CoV-2 for their body to make antibodies; some people may take longer to develop antibodies. Depending on when someone was infected and the timing of the test, the test may not find antibodies in someone with an active infection.

Antibody testing is a mechanism to assess previous infection with COVID-19. This testing is important to better understand the level of antibodies needed for protection, the duration of that protection, and the factors associated with whether a person develops a protective antibody response.

Antibody testing is designed and validated to be used for broad-based surveillance and research purposes, to provide information needed to guide the response to the pandemic and protect the public's health. This test is not currently designed for individual use, i.e., to test people who want to know if they have been previously infected with SARS-CoV-2

What is needed for specimen collection?

Specimen Type: Blood Plasma or serum

Blood Collection Tube Type: Mint-top tube (lithium heparin, gel or no-gel tube)

Required Volume (adult): 2 mL plasma

Minimum Volume (pediatric): 1 mL plasma

How should the specimen be handled?

Plasma must be centrifuged within 6 hours of collection. Specimen is stable at 2-8°C for up to 3 days.

If sending whole blood, refrigerated (2-8°C) samples must be received within 2 hours of collection.